Russian Journal of General Chemistry 2005 vol.75 N12, pages 1919-1926

Specific features of the structure of chelate complexes of N-thiocarbamoylamidophosphates with Zn(II) and Cd(II) cations

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Abstract

The reaction of potassium salts of N-thiocarbamoylamidophosphates RC(S)NHP(O)(OPr-i)2X [X = PhNH, p-MeOPhNH, p-BrPhNH, i-PrNH, t-BuNH, Et2N, C5H10N, OC4H8N, C 6H11NH] with Zn(II) cation gives complexes of the composition Zn(L-O,S)2. The Cd(II) complexes could not be isolated under analogous conditions because of their hydrolytic lability. The reaction of thioureas (X = PhNH, p-MeOPhNH) with Cd(II) acetate in DMF provides stable solvato complexes of the composition Cd(DMF)2L2. The structure of the resulting compounds was studied by means of IR, 1H, and 31P NMR spectroscopy and EI and ESI mass spectrometry. © 2005 Pleiades Publishing Inc.

http://dx.doi.org/10.1007/s11176-006-0014-2